

NONCONFIDENTIAL

2021-2349

**UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

INFERNAL TECHNOLOGY, LLC, TERMINAL REALITY, INC.,
Plaintiffs-Appellants

v.

ACTIVISION BLIZZARD INC.,
Defendant-Appellee

Appeal from the United States District Court for the Northern District of Texas,
Case No. 3:18-cv-01397-M, Chief Judge Barbara M. G. Lynn

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February 17, 2022

U.S. Patent No. 6,362,822 (Claim 1)

1. A shadow rendering method for use in a computer system, the method comprising the steps of:

providing observer data of a simulated multi-dimensional scene;

providing lighting data associated with a plurality of simulated light sources arranged to illuminate said scene, said lighting data including light image data;

for each of said plurality of light sources, comparing at least a portion of said observer data with at least a portion of said lighting data to determine if a modeled point within said scene is illuminated by said light source and storing at least a portion of said light image data associated with said point and said light source in a light accumulation buffer; and then

combining at least a portion of said light accumulation buffer with said observer data; and

displaying resulting image data to a computer screen.

FORM 9. Certificate of Interest

Form 9 (p. 1)
July 2020

**UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

CERTIFICATE OF INTEREST

Case Number 21-2349

Short Case Caption Infernal Technology, LLC, et al. v. Activision Blizzard, Inc.

Filing Party/Entity Activision Blizzard, Inc.

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Date: 2/15/2022

Signature: /s/ John D. Garretson

Name: John D. Garretson

FORM 9. Certificate of Interest

Form 9 (p. 2)
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1. Represented Entities. Fed. Cir. R. 47.4(a)(1).	2. Real Party in Interest. Fed. Cir. R. 47.4(a)(2).	3. Parent Corporations and Stockholders. Fed. Cir. R. 47.4(a)(3).
Provide the full names of all entities represented by undersigned counsel in this case.	Provide the full names of all real parties in interest for the entities. Do not list the real parties if they are the same as the entities. <input type="checkbox"/> None/Not Applicable	Provide the full names of all parent corporations for the entities and all publicly held companies that own 10% or more stock in the entities. <input checked="" type="checkbox"/> None/Not Applicable
Activision Blizzard, Inc.	Blizzard Entertainment, Inc.	
	Activision Publishing, Inc.	
	Activision Entertainment Holdings, Inc.	

☐ Additional pages attached

FORM 9. Certificate of Interest

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4. Legal Representatives. List all law firms, partners, and associates that (a) appeared for the entities in the originating court or agency or (b) are expected to appear in this court for the entities. Do not include those who have already entered an appearance in this court. Fed. Cir. R. 47.4(a)(4).

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5. Related Cases. Provide the case titles and numbers of any case known to be pending in this court or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. Do not include the originating case number(s) for this case. Fed. Cir. R. 47.4(a)(5). See also Fed. Cir. R. 47.5(b).

☐ None/Not Applicable

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Infernal Technology, LLC, et al. v. Epic Games, Inc., C.A. No. 5:19-cv-00516-BR (E.D. NC)

6. Organizational Victims and Bankruptcy Cases. Provide any information required under Fed. R. App. P. 26.1(b) (organizational victims in criminal cases) and 26.1(c) (bankruptcy case debtors and trustees). Fed. Cir. R. 47.4(a)(6).

☒ None/Not Applicable

☐ Additional pages attached

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CONFIDENTIAL MATERIAL OMITTED:

The material omitted on pages 38-42, 46, 48, and 49 are source code functions and variables that are proprietary to Activision.

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STATEMENT OF RELATED CASES

Pursuant to Federal Circuit Rule 47.5, Activision Blizzard, Inc. states as follows: No other appeals from the same civil action were previously before this or any other appellate court; and the following cases may affect or be affected by this Court's decision in the present appeal: *Infernal Technology, LLC, et al. v. Epic Games, Inc.*, C.A. No. 5:19-cv-00516-BR, pending the United States District Court for the Eastern District of North Carolina.

JURISDICTIONAL STATEMENT

This case involves an appeal from a final judgment entered on September 16, 2021, in the United States District Court for the Northern District of Texas. The district court had jurisdiction under 28 U.S.C. §§ 1331 and 1338. Appellants Infernal Technology, LLC and Terminal Reality, Inc. (together, “Infernal”), filed their notice of appeal on September 19, 2021. This Court has jurisdiction over the appeal under 28 U.S.C. § 1295(a)(1).

STATEMENT OF THE ISSUES

1. Whether the district court’s grant of summary judgment that Activision Blizzard, Inc. (“Activision”) did not infringe the asserted claims should be affirmed, where the claims require “providing *observer data*,” “comparing at least a portion of *said observer data*,” and “combining at least a portion of said light accumulation buffer with *said observer data*,” and (a) Infernal failed to produce evidence that the accused games use the same observer data for the “providing” and “combining” steps; and (b) it is undisputed that the accused games begin the “combining” step before completing the “comparing” and “storing” steps, and thus do not perform the sequence of steps in the order required by the asserted claims.

2. Whether the district court abused its discretion in excluding the opinions of Infernal’s damages expert, Mr. Lance Gunderson, where Gunderson’s reasonable royalty model was based on sales of accused games without any evidence that such sales were connected to the alleged infringing use of the claimed methods at issue, and his opinions did not allocate for damages attributable to any other bases for infringement.

STATEMENT OF THE CASE

I. DECISION ON APPEAL

This appeal arises from final judgment entered in favor of Activision and against Infernal. Infernal filed its complaint for patent infringement on May 31, 2018. Appx0101-0123. The district court granted summary judgment of noninfringement on September 16, 2021, finding as a matter of law that certain Activision video games and game engines (the “accused games”) did not infringe claim 1 of U.S. Patent No. 6,362,822 (“the ’822 patent”) or claims 1 and 27 of U.S. Patent No. 7,061,488 (“the ’488 patent”) (collectively, the “asserted patents”).¹ Appx0001-0028. In addition to granting summary judgment of noninfringement, the district court granted Activision’s motion to exclude the opinions of Infernal’s damages expert, Lance Gunderson. Appx0002-0028.

The district court determined that the accused games do not infringe the asserted claims for two independent reasons. First, the district court determined the “combining” limitation is not satisfied in step (d) of each asserted claim. Applying the plain and ordinary meaning to claim 1, the district court concluded that “‘said observer data’ in the combining step 1(d) refers to the same observer data as the

¹ Infernal initially asserted claims 1-4 and 7 of the ’822 patent, and claims 1, 6, and 27-29 of the ’488 patent, but later withdrew its claims of infringement for claims 2-4 and 7 of the ’822 patent, and claims 6, 28, and 29 of the ’488 patent. Appx0003; Appx4963.

‘observer data’ in the providing step 1(a), and ‘at least a portion of said observer data’ in the comparing step 1(c) means at least a portion of that same observer data provided in 1(a).” Appx0015. Because Infernal did not dispute that for step (d) of each asserted claim, the accused games only combine a subset of the identified observer data provided in step (a), the district court determined that Activision did not infringe the asserted claims. Appx0017-0018.

Second, the district court determined that the accused games do not perform the claimed method in the sequence required by the asserted claims. Under the district court’s construction, “the comparing and storing steps [of step (c)] are completed before beginning the combining step [of step (d)].” Appx0018; Appx1275. Because the accused games do not finish the steps of comparing and storing for each light source before beginning the combining step, the district court concluded that “the accused games do not infringe the asserted claims because the undisputed evidence shows that combining steps begin before the comparing and storing steps are completed for each light source.” Appx0019.

In excluding the opinions of Infernal’s damages expert, Lance Gunderson, the district court found Infernal had not presented evidence that Activision’s sales of the accused games were based on the alleged infringing use—internal testing and demonstrations. Appx0027. Because Gunderson’s damages theory was predicated

on game sales and did not differentiate between the alleged infringement of method and apparatus claims infringement, his entire testimony must be excluded. *Id.*

II. FACTUAL BACKGROUND

A. The Patents in Suit

The '822 and '488 patents are related and share a common inventor—Mr. Mark R. Randel. *See* Appx0029, Appx0045. Both patents expired on March 12, 2019. Appx4560. Titled “Lighting and Shadowing Methods and Arrangements for Use in Computer Graphic Simulations,” they relate to “computer graphics and, more particularly, to improved methods and arrangements for use in rendering lighting and shadows in computer graphic simulations, such as, for example, interactive computer graphics simulations of multi-dimensional objects.” Appx0036 ('822 pat., 1:6-10).²

1. Claims

Claim 1 of the '822 patent and claims 1 and 27 of the '488 patent are the claims at issue on appeal. They require:

- Step (a)*** ***providing observer data*** of a simulated multi-dimensional scene;
- Step (b)*** providing lighting data associated with a plurality of simulated light sources arranged to illuminate said scene, said lighting data including light image data;

² For convenience, Activision cites to the '822 patent for common portions of the specification of the '488 and '822 patents.

- Step (c)** *for each of said plurality of light sources, comparing at least a portion of said observer data* with at least a portion of said lighting data to determine if a modeled point within said scene is illuminated by said light source *and storing* at least a portion of said light image data associated with said point and said light source in a light accumulation buffer; *and then*
- Step (d)** *combining* at least a portion of said light accumulation buffer *with said observer data . . .*

Appx0041 at 12:6-20; Appx0057 at 12:10-24; Appx0059 at 15:10-24 (emphasis and annotations added).

2. Specification

The alleged inventions relate to improved, realistic shadow rendering, in scenes with multiple light sources. “Rendering such interactive 3D worlds, however, typically requires that millions of calculations be conducted between frames.” Appx0036 (’822 pat., 1:45-47). According to the patents, this need for numerous calculations—as well as the “limit to the amount of processing that a computer [in the late 1990s] can provide between frames”—led to an “unfortunate compromise[] . . . in the area of lighting and, more particularly, in the area of rendering shadows cast by lighted 3D objects.” Appx0036 (’822 pat., 1:47-50, 1:57-59).

To address these constraints, the patents describe a specific, multi-step method for shadow rendering. This method “accumulatively light[s], rather than

accumulatively darken[s]” each portion of the scene and stores the “accumulated light falling on a pixel” in a buffer before applying it to the view of scene from the observer’s perspective. Appx0039 (’822 pat., 7:44-53); Appx0040 (’822 pat., 9:1-22).

Figures 3 and 4 illustrate the methods disclosed. Figure 4 is a flow chart of the patented “shadow rendering process,” while Figure 3 depicts an arrangement of modeling data used. The patented method begins with “providing observer data of a simulated multi-dimensional scene”—a representation of the objects in the scene from the camera’s perspective. Appx0037 (’822 pat., 3:21-22).

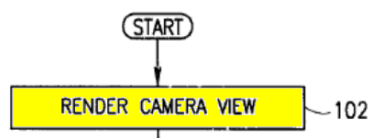


Fig. 4

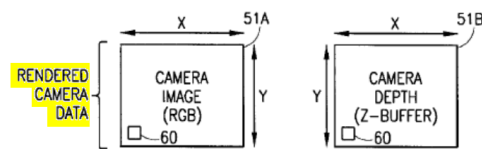


Fig. 3

As illustrated above, using “conventional methods,” the method starts by rendering the scene from the camera’s view, producing two-dimensional camera color (51A) and depth data (51B). Appx0039 (’822 pat., 8:39-41). Observer data includes the color and depth data for the modeled polygons in the scene as viewed from the perspective of the observer (the camera). Appx0037 (’822 pat., 3:37-40).

The method next requires “providing lighting data associated with a plurality of simulated light sources arranged to illuminate the scene.” Appx0037 (’822 pat., 3:22-24).

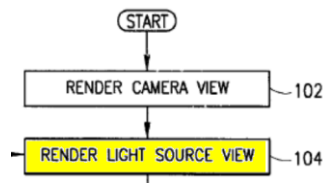


Fig. 4

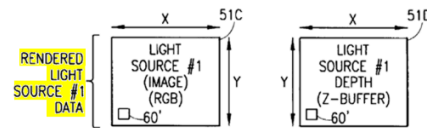
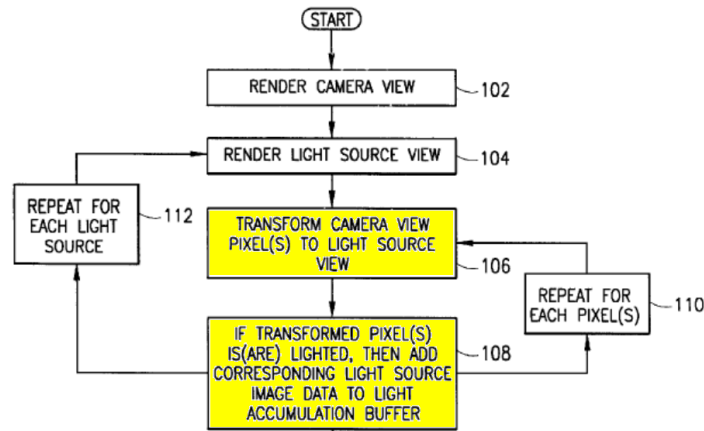


Fig. 3

As shown above, lighting data similarly includes “light image data” (51C) comprised of two-dimensional RGB pixel data values (e.g., intensity, color, and/or pattern) representing an image of the light emitted by the light source, along with depth data (51D), which describes distances to objects as seen from the viewpoint of the light source. Appx0037 (’822 pat., 3:45-51); Appx0038 (’822 pat., 6:61-64); Appx0039 (’822 pat., 7:15-19, 7:23-28). The method renders the scene from the perspective of the light source to produce lighting data (*i.e.*, color and depth data). Appx0039 (’822 pat., 8:41-44).

With both the observer and lighting data obtained from rendering a view of the scene from the perspective of the camera and light source, respectively, the method moves on to the comparing step. Figure 4 below shows the comparing steps 106 and 108:

*Fig. 4*

In step 106, a pixel in camera image 51A of the scene “is transformed or is otherwise used to determine a corresponding pixel” in a light image (51C) and light depth (51D). Appx0039 (’822 pat., 8:45-47). In step 108, if the transformed pixel is illuminated by the light source, “then the corresponding pixel data value in the light image is added to the light accumulation buffer 51G.” Appx0039 (’822 pat., 8:57-60). This comparison determines if a transformed pixel is lighted by, or shaded from, a light source based on depth values describing the distance of a pixel from the observer and light source. Appx0039 (’822 pat., 8:60-67). Step 110 illustrates that “[s]teps 106 and 108 are repeated for each of the pixels in camera image 51A.” Appx0040 (’822 pat., 9:1-3). This process is then repeated for every light source in the scene (step 112). Appx0040 (’822 pat., 9:3-5). Once each light source has been processed, the light accumulation buffer will store the “the cumulative light cast by the multiple light sources on each pixel.” Appx0040 (’822 pat., 9:8-12).

In the final step of the described rendering method, the “cumulative light” stored in the accumulation buffer is combined with the observer data to produce the final image of the scene. Appx0040 (’822 pat., 9:13-22); Appx0037 (’822 pat., 3:31-34). In step 118, the resulting image is “further rendered” and eventually stored in frame buffer 50. Appx0040 (’822 pat., 9:19-22).

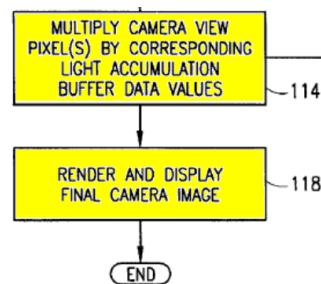


Fig. 4

The resulting image data is then displayed on a computer screen. Appx0040 (’822 pat., 9:19-22); Appx0037 (’822 pat., 3:34-35).

B. Activision’s Accused Games

Activision is a leader in the development, publishing, and distribution of interactive video games. At issue in this case are nineteen Activision video games and related video game engines accused of infringing claims 1 and 27 of the ’488 patent and claim 1 of the ’822 patent:

- Call of Duty: Black Ops 3
- Call of Duty: Black Ops 4
- Call of Duty: Infinite Warfare
- Destiny
- Destiny: The Dark Below
- Destiny: The Taken King

- Call of Duty: World War II
- World of Warcraft: Warlords of Draenor
- Skylanders: SWAP Force
- Skylanders: Trap Team
- Skylanders: Superchargers
- Skylanders: Imaginators
- Spyro Reignited Trilogy
- Destiny: Rise of Iron
- Destiny 2
- Destiny 2: Curse of Osiris
- Destiny 2: Warmind
- Destiny 2: Forsaken
- Crash Bandicoot N. Sane Trilogy

Appx1833–1835. Third-party Bungie, Inc. developed the Destiny games and related engines. Appx1787–1788. Activision, or its subsidiaries, developed the remaining games and related game engines, and was the publisher of all the accused games. Appx2437 ¶358; Appx2449-2450 ¶¶407-408; Appx2456 ¶433; Appx2483 ¶548; Appx2528–2529 ¶685.

These video games and game engines rely on the coordination of a number of sophisticated tools and functionalities. But Infernal’s infringement allegations necessarily focus only on the games’ and game engines’ use of specific rendering functionality associated with lighting and shadowing features. Appx1835 ¶273. In operation, the accused games render a scene and capture numerous pieces of information to “draw” that scene on a display. The captured information can include depth data, diffuse albedo (i.e., intrinsic surface color), surface normal (i.e., the direction a surface is facing), metallic surface terms (i.e., metallic surface

determination), and glossiness values. *See* Appx1836-1837 ¶¶277-78. The diffuse albedo contents are referred to as the “color” observer data throughout this brief.

The following facts concerning the rendering functionality of the accused games were undisputed before the district court.

Undisputed facts relating to the “combining” step:

- (1) To meet the requirements of step (a) (“providing observer data”), for every accused game, Infernal identified data derived from a geometry buffer (or g-buffer), specifically “world normal,” “vertex normal,” “albedo,” “diffuse,” “depth,” “position,” or other “normal vector” data as the “observer data” in this limitation. Appx1780 (¶14); Appx1836-1837 (Aliaga Rpt. ¶¶276-279); Appx2538-2561 (Add. B excerpts); *see, e.g.*, Appx2547-2548 (Add. B ¶673); *see also* Appx1397-1400 (Pelham Rpt. ¶¶276, 277, 282, 288); Appx1480, Appx1484-1485 (Add. H ¶¶85, 104).
- (2) To meet the requirements of step (c) (“comparing at least a portion of said observer data with at least a portion of said lighting data...”), for every accused game, Infernal identified “normal vector” and “position” data as the “said observer data” in this limitation. Appx1781-1781 (¶16); Appx1839-1842 (Aliaga Rpt. ¶¶286-297); Appx2538-2561 (Add. B excerpts); *see, e.g.*, Appx2549 & Appx2553 (Add. B ¶¶706,

739); *see also* Appx1397, Appx1406-1408 (Pelham Rpt. ¶¶276, 277, 403-409); Appx1480, Appx1484-1485 (Add. H ¶¶85, 104).

(3) To meet the requirements of step (d) (“combining at least a portion of said light accumulation buffer with said observer data”), for every accused game, Infernal identified only color data, such as “albedo,” “diffuse color,” “specular color,” or other color data derived from a g-buffer, for the “said observer data” in this limitation. Appx1782 (¶17); Appx1622-1623 (Aliaga Reply Rpt. ¶261); Appx1842-1843 (Aliaga Rpt. ¶¶298-301); Appx2538-2561 (Add. B excerpts); *see, e.g.*, Appx2539-2540 & Appx2556-2560 (Add. B ¶¶402, 750-758).

(4) For each accused game, at least some of the “observer data” that Infernal identified for step (a) and *all* of the “at least a portion of said observer data” that Infernal identifies for step (c) are not included in the “said observer data” that Infernal identifies for “combining at least a portion of said light accumulation buffer with said observer data” of step (d). Appx1782-1783 (¶18); *see, e.g.*, Appx1836, Appx1841 (Aliaga Rpt. ¶¶277, 296 (identifying “GBufferNormalAndGloss” as provided “observer data” for step 1(a) and “input.wldNormal” as “observer data” for step 1(c) for Call of Duty: Black Ops 3)); Appx2556-2560 (Aliaga Rpt., Add. B ¶¶750-758 (failing to identify

“GBufferNormalAndGloss” and “input.wldNormal” for step 1(d) for Call of Duty: Black Ops 3)).

See also Appx0008 & Appx0016 (noting Infernal’s failure to dispute the factual record in its Response and Infernal’s concessions at oral argument).

Undisputed facts relating to the claimed sequence of steps:

- (1) To meet step (c) (“storing at least a portion of said light image data associated with said point and said light source in a light accumulation buffer”), for every accused game, Infernal alleged that “light image data” is added or multiplied to what it alleged is “a light accumulation buffer.” Appx1783 (¶19); Appx1841-1962 (Aliaga Rpt. ¶¶297, 337, 386, 426, 512, 576, 622, 629, 678, 705, 707); *see, e.g.*, Appx1970 & Appx1980-1981 (Add. B ¶¶446, 741).
- (2) For every accused game, the “light image data” (defined in paragraph 1, above) is also “observer data” because it derives from data from the g-buffer under Infernal’s theories. Appx1783-1784 (¶20); Appx1840-1962 (Aliaga Rpt. ¶¶293-297, 335-337, 425-426, 448-462, 503-512, 562-576, 617-622, 624-629, 672-678, 702-705, 707); *see, e.g.*, Appx1967-1969 & Appx1978-1981 (Add. B ¶¶443-444, 738-741); *see also* Appx1397, Appx1406-1408 (Pelham Rpt. ¶¶276-279, 403-409); Appx1480-1483 (Add. H ¶¶85, 89).

- (3) For every accused game, Infernal alleges that any value derived from “observer data” is also “observer data.” Appx1780-1781 (¶15); Appx1839-1954 (Aliaga Rpt. ¶¶290, 293-295, 296, 301, 337, 343, 354, 385, 391, 402, 419, 423, 428, 429, 449, 450, 451, 454, 455, 464, 466, 503, 515, 516, 518, 519, 530, 532, 566, 580, 586, 593, 599, 620, 621, 626, 633, 639, 645, 651, 673, 682); *see, e.g.*, Appx1971-1972 & Appx1977 (Add. B ¶¶490-491, 712); *see also* Appx1397, Appx1406-1407 (Pelham Rpt. ¶¶277, 278, 404-407); Appx1481 (Add. H ¶86).
- (4) To meet step (d), for every accused game, Infernal relied on functions involving addition and/or multiplication operations to demonstrate “combining.” Appx1784-1785 (¶21); Appx1841-1963 (Aliaga Rpt. ¶¶299-301, 305, 311, 313, 340-343, 347, 353, 355, 390-391, 395, 401, 404, 428-430, 464-466, 530-532, 580, 633, 680-682, 709-710); *see, e.g.*, Appx1965-1966 & Appx1982-1986 (Add. B ¶¶402, 750-758).
- (5) For every accused game, during the processing of the first light source, “observer data” is combined through addition or multiplication operations with what Infernal identified as “at least a portion of said light accumulation buffer.” Appx1785 (¶22); Appx1841-1962 (Aliaga Rpt. ¶¶297, 337, 386, 426, 512, 576, 622, 629, 678, 705, 707); *see, e.g.*,

Appx1970 (Add. B ¶446); *see also* Appx1398, Appx1408 (Pelham Rpt. ¶¶ 280-283, 409-412); Appx1484 (Add. H ¶100).

(6) For every accused game, after the completion of a “combining” step (defined in paragraph 5, above) for a first light source, the accused games perform additional “comparing” and “storing” steps for subsequent light sources. Appx1786 (¶23); Appx1839-1962 (Aliaga Rpt. ¶¶287-297, 334-338, 384-388, 419-427, 450-462, 502-528, 563-576, 617-631, 672-678, 704-707); *see, e.g.*, Appx1976 (Add. B ¶708); *see also* Appx1398-1400, Appx1408-1409 (Pelham Rpt. ¶¶280-285, 290, 409-413); Appx1478-1479, Appx1484 (Add. H ¶¶83, 100).

(7) The accused games perform “combining” steps prior to completing the “comparing” and “storing” steps for “for each of said plurality of light sources.” In other words, each of the accused games performs at least one step of “combining at least a portion of said light accumulation buffer with said observer data” prior to completing the “comparing” and “storing” steps for each light source. Appx1786-1787 (¶24); *see* Appx1398-1400, Appx1408-1409 (Pelham Rpt. ¶¶280-285, 290, 409-413); Appx1478-1479, Appx1484 (Add. H ¶¶83, 100); Appx1623 (Aliaga Reply Rpt. ¶262); Appx1602-1603 (Aliaga Dep. at 119:10-121:3).

See generally Appx1397-1399 (Pelham Rpt. ¶¶276-287).

C. District Court Proceedings

1. Claim Construction

After briefing³ and a hearing, the district court rendered a decision on claim construction issues on December 6, 2019. Appx1236-1275. For each of the asserted claims, the district court adopted parties’ agreed constructions that: (1) the “order of the comparing, storing, and combining steps” requires “the comparing and storing steps are completed before beginning the combining step” (Appx1246); (2) “observer data of a simulated multidimensional scene” means “data representing at least the color of objects in a simulated multidimensional scene as viewed from an observer’s perspective” (Appx1246); and (3) “combining at least a portion of said light accumulation buffer with said observer data” means “combining at least a portion of the data in the light accumulation buffer with said observer data” (Appx1247).

³ *See* Appx0192-0249 (Defs.’ Opening Br.), Appx0502-0542 (Pls.’ Opening Br.); Appx0612-0654 (Defs.’ Resp. Br.), Appx0671-0720 (Pls.’ Resp. Br.).

2. The District Court’s Judgment of Noninfringement

Activision filed a motion for summary judgment of noninfringement on May 10, 2021. Following briefing and a hearing,⁴ the district court granted summary judgment that the accused games: (1) do not meet “combining” step (d) of the claims; and (2) do not perform the recited steps in the sequence required by the claims. Appx0006.

a) The Accused Games Do Not Meet the “said observer data” of Step (d).

The district court determined that the accused games do not meet the “said observer data” requirement of step (d). The asserted claims recite a specific method for calculating and assembling data to display a graphical image on a screen. Part of that approach requires “providing observer data” [step (a)], “comparing at least a portion of said observer data” with lighting data to determine whether a point in the scene is lit by a particular light, and, if so, storing light image data for the light to a light accumulation buffer [step (c)], and then “combining at least a portion of said light accumulation buffer with said observer data” [step (d)]. Appx0004-0005; Appx0007 n.2. At issue was whether the accused games infringe where the “said observer data” that is combined in step (d) *does not* include the same “observer data”

⁴ Appx1302-1304 (Mot.); Appx1769-1822 (Br.); Appx1306-1390, Appx1391-1768, Appx1823-2399 (Appx.); Appx2979-3036 (Resp.); Appx3037-4074 (Appx.); Appx4256-4287 (Reply); Appx4894-4961 (Hr’g. Tr.).

that is provided in step (a), nor the portion of “observer data” that is compared in step (c).

The district court concluded, “under its plain and ordinary meaning, ‘said observer data’ in [step (d)] means the same observer data as the ‘observer data’ in [step (a)], and that ‘at least a portion of said observer data’ in [step (c)] means at least a portion of that same observer data provided in [step (a)].” Appx0009. The district court determined that the accused games do not meet combining step (d), noting that for each accused game, at least some of the provided “observer data” that Infernal identified for step (a) and all of the “at least a portion of said observer data” that Infernal identifies for step (c) are *not* included in the “said observer data” that Infernal identifies for “combining at least a portion of said light accumulation buffer with said observer data” of step (d). *See* Appx0016 (“Plaintiffs did not dispute the factual record put forth by Activision or point to any contrary evidence indicating that the observer data combined in element 1(d) is the same as initially provided in 1(a).”); Appx1782-1783 (¶18).

The district court further rejected Infernal’s argument, raised for the first time during the summary judgment hearing, that “the same set of ‘albedo’ [color] data constitutes ‘observer data’ for purposes of the providing step 1(a), the comparing step 1(c), and the combining step 1(d).” Appx0016-0017. The district court first noted that Infernal’s “albedo” (or “color”) infringement theory was not properly

before the district court. Appx0017. The district court next determined that, even if this theory had been properly raised, it was undisputed that Infernal’s argument is factually incorrect. That is, Infernal relied on different sets of data for the “providing,” “comparing” and “combining” steps, and “albedo” data is not included in the “observer data” that Infernal identified for the “comparing” step. Appx0017-0018.

Because Infernal identified color data *and* depth data⁵ for step (a), depth data for step (c), and *only* color data for step (d), the district court granted summary judgment of noninfringement based on “combining” step (d). Appx0017-0018.

b) The Accused Games Do Not Perform the Claimed Sequence of Steps in the Required Order.

The district court adopted the agreed construction that the asserted claims require a specific order of steps, construing the “order of the comparing, storing, and combining steps” to mean that “the comparing and storing steps are completed before beginning the combining step.” Appx1246, Appx1275. Consistent with this required order, the district court held that, “the accused games do not infringe the asserted claims because the undisputed evidence shows that combining steps begin

⁵ Appx0017; Appx2991-2992 (Resp. at 13 (citing Appx2452-2453 (Aliaga Rep. ¶419) (“[T]he ‘offPosition’ variable comprises at least a portion of said observer data because, for example, it derives from the ‘depthTexture’ buffer.”)).

before the comparing and storing steps are completed for each light source.” Appx0019.

The district court rejected Infernal’s argument that the use of “comprising” in asserted claims 1 of the ’822 patent and 1 of the ’488 patent “gives [Infernal] license to disregard other comparing, storing, and combining steps performed by the accused games when showing infringement.” Appx0020. Instead, the district court held that the comparing, storing, and combining steps “*are* the recited, enumerated steps, which the Court has construed as being performed in a specific and particular order.” Appx0020 (emphasis in original).

Because the accused games perform at least one step of “combining at least a portion of said light accumulation buffer with said observer data” prior to completing the “comparing” and “storing” steps for each light source, the district court found that the accused games do not infringe the asserted claims. Appx0022.

3. The Court’s Determination Excluding the Testimony of Lance Gunderson

On June 15, 2021, Activision filed a motion to exclude the opinions of Infernal’s damages expert, Mr. Lance Gunderson, because he failed to tie his reasonable royalty analysis and damages opinions to the facts of the case. Appx0022; Appx0024; Appx4075-4077 (Mot.); Appx4079–4109 (Br.); Appx4110–4255 (Appx.).

Gunderson offered two reasonable royalty figures—one based on domestic sales of the accused games, and an alternative calculation based on foreign sales, covering the period from six years before the underlying suit was filed through the expiration date of the patents-in-suit, *i.e.*, May 31, 2012, to March 12, 2019. Appx0023; Appx4142-4143 (Gunderson Rep. ¶¶ 169-170).

For the asserted method claims, Infernal’s direct infringement allegations rely only on internal testing and demonstration of the accused games. Appx0024; Appx4120-4123 (Gunderson Rep. ¶¶ 30-35). Gunderson’s opinions assumed that all game sales were attributable to Activision having allegedly performed the claimed methods during internal testing and demonstrations. Appx0025; Appx4120-4123. In support, Gunderson relied on the general importance of testing, and the impact that not testing would have on the success of the accused games. Appx0026; Appx4119-4123 (Gunderson Rpt. ¶¶ 28, 30-35). He relied, in part, on another Infernal expert witness, Dr. Daniel Aliaga, who opined regarding Activision’s testing and demonstrations. *Id.*; Appx4427-4428 (Aliaga Rep. ¶¶ 714-715).

In a co-pending case against Sony, Gunderson developed a similar damages theory. The *Sony* court struck opinions in his opening report because he did not “meaningfully connect the alleged uses of the claimed methods (Sony’s internal testing and demonstration) with the sales of the Accused Products.” Appx4842

(citing *Packet Intelligence LLC v. NetScout Sys., Inc.*, 965 F.3d 1299, 1314-15) (Fed. Cir. 2020)). The *Sony* court gave Gunderson an opportunity to supplement his report with respect to infringement of accused apparatus claims. Appx4843. However, because his supplemental report did not cure his “legally flawed damages model,” the court struck his supplemental opinions, too. Appx4842-4844. And Gunderson proceeded with a similar damages theory in the *Activision* case. See Appx4822-4823 (Reply Br. discussing *Sony* decision).

Activision moved to exclude Gunderson’s damages calculation as unreliable because he could not show a nexus between internal testing and demonstrations of accused games and the sales of those games. Appx4087-4092. Because Gunderson’s analysis did not distinguish between method and apparatus claims, Activision asserted that his entire analysis was flawed, and there was too great of an analytical gap between the data, the evidence, and his proffered opinion for it to be reliable. Appx4824-4825; Appx4944; Appx4957.

Reviewing this record, the district court recognized that Gunderson “does not analyze the economic harm of the alleged use of the claimed methods during game testing and development or during game demonstrations, and makes no effort to tie the claimed damages base to Activision’s internal use of the patented method.” Appx0025. Ultimately, the district court granted Activision’s motion “[b]ecause there is no evidence that sales were made based on infringing use of the claimed

methods, Gunderson’s damages model, which relies entirely on sales of the accused games, is not tailored to any alleged internal use of the claimed method.” Appx0027. Further, because Gunderson “does not indicate which portion of his proposed royalty is based on alleged infringement of the method claims versus the asserted apparatus claims (claim 27 of the ’488 patent),” the district court excluded the entirety of his opinion. Appx0027.

SUMMARY OF THE ARGUMENT

The Court should affirm the district court’s judgment of noninfringement for either of two independent reasons. First, the Court should affirm the district court’s judgment that Activision does not infringe because the accused games do not satisfy step (d) of the asserted claims—“combining at least a portion of said light accumulation buffer with said observer data.” Applying the plain and ordinary meaning of “said” to “observer data,” the “said observer data” of step (d) *must* include the “observer data” “provid[ed]” in step (a), and be inclusive of the “at least a portion of said observer data” “compar[ed]” in step (c). Infernal provided no evidence showing that, in the accused games, the identified “observer data” “provid[ed]” in step (a) was then “combin[ed]” in step (d). These facts remain undisputed and summary judgment was proper.

Second, the Court should affirm the district court’s judgment that Activision did not infringe because the accused games do not perform steps (c) and (d)

according to the claimed sequence of steps. The parties agreed on the construction the district court adopted: that “the comparing and storing steps are completed before beginning the combining step.” Infernal provided no evidence showing that, in the accused games, “for each of said plurality of light sources,” the “comparing” and “storing” steps of step (c) are completed before beginning the “combining” step of step (d). The undisputed evidence demonstrates that the accused games begin performing a “combining” step after performing a “comparing” and “storing” step for a first light source—but *before* completing the “comparing” and “storing” steps for a second “light source,” or “for each of said plurality of light sources.” For this additional reason, summary judgment of noninfringement was proper.

The district court did not abuse its discretion in excluding the opinion testimony of Infernal’s damages expert. Gunderson’s opinions were based on a flawed damages theory that was not sufficiently tied to the facts of the case. He relied on general internal testing and demonstrations for direct infringement of the asserted method claims, but his reasonable royalty model was based on accused game sales without showing any causal relationship between performance of the method steps and sales of the games. His opinion also did not allocate for damages attributable to any other bases for infringement beyond direct infringement based on testing and demonstration of the accused games, which undermined his entire analysis. While Gunderson did not need to offer an opinion on infringement, his

opinions did need to be tied to the activities alleged to be infringing. The district court did not abuse its discretion in excluding Gunderson’s opinion given this analytical gap. For all these reasons, the district court’s judgment should be affirmed.

ARGUMENT

I. STANDARD OF REVIEW

This Court reviews a “district court’s summary judgment de novo under the law of the regional circuit—here the Fifth Circuit.” *Traxcell Techs. v. Sprint Commc’ns Co.*, 15 F.4th 1121, 1127 (Fed. Cir. 2021) (citing *Ericsson Inc. v. TCL Commc’n Tech. Holdings Ltd.*, 955 F.3d 1317, 1324-25 (Fed. Cir. 2020)). Under Fed. R. Civ. P. 56(a), summary judgment is proper “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” *Id.* at 1127. This Court “view[s] all evidence in the light most favorable to the nonmoving party and draw[s] all reasonable inferences in that party’s favor.” *Id.* (citing *Kariuki v. Tarango*, 709 F.3d 495, 501 (5th Cir. 2013) (quotation omitted)).

This Court “review[s] claim construction based on intrinsic evidence de novo and review[s] any findings of fact regarding extrinsic evidence for clear error.” *SpeedTrack, Inc. v. Amazon.com, Inc.*, 998 F.3d 1373, 1378 (Fed. Cir. 2021).

Whether expert testimony should be admitted at trial is a procedural issue not unique to patent law, which this Court reviews under the law of the regional circuit. *See Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1225 (Fed. Cir. 2014); *Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1360 (Fed. Cir. 2001) (reviewing refusal to admit evidence under law of regional circuit). The Fifth Circuit reviews such evidentiary rulings for abuse of discretion. *Snap-Drape, Inc. v. Comm’r*, 98 F.3d 194, 197 (5th Cir. 1996).

II. THIS COURT SHOULD AFFIRM SUMMARY JUDGMENT OF NONINFRINGEMENT OF THE ’822 AND ’488 PATENTS.

The Court should affirm the district court’s judgment of noninfringement for two reasons, either of which is sufficient. First, for all asserted claims, the accused games do not perform the “combining” step (d) because the observer data Infernal relied on for that step is not the same as the observer data Infernal identified for the “providing” step (a). Second, the accused games do not perform the sequence of steps in the order required by the claims because the “combining” step begins before the “comparing” and “storing” steps for *each* light source are completed.

A. The Accused Games Do Not Satisfy the “Combining” Step of the Asserted Claims.

The accused games do not perform the step of “combining at least a portion of said light accumulation buffer with said observer data” because the accused “said observer data” on which Infernal relies does not include the “observer data” referred

to earlier in the claim from which “said observer data” derives its antecedent basis. To show infringement of the “observer data” limitation in step 1(a), Infernal pointed to observer data that included color data, depth data, and other graphics buffer observer data. But for combining step (d), Infernal only pointed to color data as alleged “observer data.” Because Infernal’s inconsistent application of “observer data” runs counter to a proper construction and application of the asserted claims, the district court correctly held that Activision’s accused games do not practice the combining step, and, therefore, do not infringe the asserted claims. Appx0006–0007, Appx0009–0015.

1. Under a proper application of “said observer data,” the accused games do not practice the asserted claims.

The district court adopted the parties’ construction of “observer data of a simulated multi-dimensional scene” as recited in the asserted claims to mean “data representing at least the color of objects in a simulated multi-dimensional scene as viewed from an observer’s perspective.”⁶ Appx1246, Appx1274. The asserted claims recite “observer data” in steps (a), (c), and (d):

- Step (a) – **providing observer data...**

⁶ Infernal acknowledged during oral argument that it was not seeking a construction of the term “said observer data,” and thus forfeited any suggestion that this Court should adopt a different construction on appeal. Appx4922-4923 (Hr’g. Tr. at 29:22-30:7); *see In re Google Tech. Holdings LLC*, 980 F.3d 858, 863 (Fed. Cir. 2020).

- Step (c) – comparing **at least a portion of said observer data** with at least a portion of said lighting data...and storing at least a portion of said light image data associated with said point and said light source in a light accumulation buffer; and then
- Step (d) – combining at least a portion of said light accumulation buffer with **said observer data**

Infernal identified color and depth data to meet providing step (a), but pointed to only a portion of that data, namely color data, as the observer data for combining step (d). Appx1780-1782 (¶¶14, 17); Appx1836-1837 & Appx1842-1843 (Aliaga Rpt. ¶¶276-279, ¶¶298-301); *see, e.g.*, Appx2547-2548 (Add. B ¶673); Appx2539-2540 & Appx2556-2560 (Add. B ¶¶402, 750-758). On appeal, Infernal does not dispute that “[its] own contentions and experts admit that *only a portion* of the provided observer data is combined with a portion of the alleged light accumulation buffer.” Appellant’s Principal Br. (“PB”) at 26. Rather, Infernal disputes whether it must show that the *same* observer data provided in step (a) must later be combined in step (d). This is not a factual dispute; it is an issue of law that the district court properly resolved using the canons of claim construction.

Infernal fails to provide any reason why the district court erred as a matter of law, nor does it identify any evidence of record supporting its claim of a factual dispute. *See* PB at 26-28 (failing to identify a single fact in dispute or supporting

evidence). Because the evidence is undisputed that the “observer data” on which Infernal relies is not both “provided” and “combined” as required by steps (a) and (d), the accused games do not infringe the asserted claims, and this Court should affirm summary judgment of noninfringement.

2. There is no conflict between the district court’s application of the antecedent basis rule and its construction of “observer data.”

On appeal, Infernal asks this Court to ignore the antecedent basis rule and hold that a claim term may be met independent of the term from which it derives its antecedent basis, rather than requiring consistent application of *an identical element* recited later in the claim. Specifically, Infernal argues that it may identify only color data as the “said observer data” for step (d) because color data meets the district court’s construction of “observer data,” which is “data representing at least the color of objects” Infernal contends that even though the phrase “*said* observer data” refers to the observer data identified earlier in “providing” step (a), and even though Infernal identified both color and depth data, and other g-buffer observer data, as “observer data” for the providing step, it may rely on only color data to meet the recited “said observer data” in combining step (d). Infernal’s argument is flawed. The “said observer data” of step (d) may be color data, or it may be color data, depth data, and other g-buffer observer data, *so long as* it is the same data required by the providing step. *See, e.g., Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338,

1343 (Fed. Cir. 2008) (noting “said” is an “anaphoric phrase[], referring to the initial antecedent phrase”). Because Infernal’s allegations of infringement by the accused games relied on the identification of different “observer data” for steps (a) and (d), the accused products cannot infringe as a matter of law.

There is no dispute that the “observer data” Infernal identified for step (a) is different than the “observer data” Infernal identified for step (d). For step (a), Infernal pointed to data that is derived from a g-buffer, specifically “world normal,” “vertex normal,” “albedo,” “diffuse,” “depth,” “position,” or other “normal vector” data. Appx1780 (¶14) For step (d), Infernal identified only color data, such as “albedo,” “diffuse color,” “specular color,” or other color data derived from a g-buffer, as the “said observer data” in this limitation. Appx1782 (¶17). There also is no dispute that the “observer data” of step (d) does not include the “observer data” of step (c), as it must. Specifically, Infernal identifies “normal vector” and “position” data for step (c), but did not rely on this same data in step (d). Appx1781-1782 (¶¶16-17). Thus, the district court correctly held that Activision does not infringe any asserted claims of the asserted patents.

3. The claims require use of the same “said observer data” for the “combining” and “providing” steps.

a) The district court gave effect to all of the words in the claim.

In addition to ignoring the antecedent basis rule, Infernal incorrectly contends that a subset or portion of “observer data” is sufficient to satisfy the “combining” step. Infernal reaches this flawed conclusion by failing to read “said observer data” in view of other limitations of the claims. As the district court observed, “limitations must be construed in context and with the claim as a whole.” Appx0011; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*). Moreover, a proper construction of a term requires “giving weight to qualifying language present in one claim limitation and absent in another.” Appx0011; *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1382 (Fed. Cir. 2008).

In clarifying the plain and ordinary meaning of “said observer data,” the district court considered all three instances where “observer data” appears in the claims. Appx0011–0012. The district court noted that step 1(c) refers to “*at least a portion of* said observer data,” while step 1(d) does not. Therefore, the district court determined, “the qualifying language in 1(c)—that only ‘at least a portion of said observer data’ is used in the comparing step—suggests that other instances of ‘said observer data’ are not so qualified, otherwise the qualification in 1(c) would be superfluous.” Appx0011. The court reasoned that “the patentee would not need to

specify that 1(c) requires that only a subset of the observer data be compared if ‘observer data’ otherwise inherently provides that less than the observer data provided in 1(a) could satisfy the limitation.” Appx0012.

Infernal fails to address the district court’s observation that “the patentee knew how to specify when a subset of the observer data—as opposed to the whole—could be used ... but chose not to.” Appx0014-0015; *see also* Appx1365 (PTAB recognizing that “‘at least a portion of said observer data,’ limitation [1(d)] recites ‘said observer data,’ thereby referring back to the observer data provided, rather than just a portion of that data”). If the patentee had intended for “said observer data” to include a subset or portion of “observer data,” the patentee could have drafted the claims to specify as much, as it did in step (c) of the asserted claims.

Moreover, Infernal’s suggestion that all claim terms that include the phrase “observer data”—*i.e.*, “at least a portion of said observer data” and “said observer data”—must only meet the district court’s construction of that term (*i.e.*, “data representing at least the color of objects in a simulated multi-dimensional scene as viewed from an observer’s perspective”), rewrites the claims to remove “at least of portion of” from step (c), and “said” from step (d). But, even under this rewrite, Activision’s accused games would still not infringe for at least another reason, which is that Infernal only identifies *depth* data and other specific g-buffer observer data, but not *color* data, as meeting the “at least a portion of said observer data” claim

term in step (c). *See supra* Part.II.B; Appx0017 (“[T]he Court is aware of no evidence that the same albedo data is used in the accused games in each of the 1(a), 1(c), and 1(d) steps.”).

b) The specification requires “said observer data” to be the same “observer data” identified in the “providing” step.

Although Infernal offers no direct intrinsic support or legal authority for its interpretation of “said observer data,” it faults the district court for failing to “identify anything in the specification indicating that the term ‘observer data’ in the asserted claims should be understood to mean ‘all’ of the observer data provided under step 1(a).” PB at 24 n.4. To the contrary, the district court considered the relevant statements in the specification and concluded that the plain meaning of “said observer data” in the combining step (d) is “all” observer data previously identified in the providing step (a), and nothing in the specification warranted departing from the ordinary meaning. Appx0012-0013.

Infernal has not identified any support from the specification that the court failed to consider, or explained why any particular disclosures justify a different conclusion. Infernal challenges the district court’s conclusion only in footnotes, and even then, Infernal identifies a single disclosure from the specification that identifies nothing more than color data being used in the final combining step. PB at 24 nn.4-

5 (citing Appx0040 ('822 patent at 9:4-19).⁷ Specifically, Infernal argues in conclusory fashion that the patents' embodiments do not disclose combining light accumulation buffer data with anything other than observer color data. PB at 24 n.5. In other words, Infernal argues, for purposes of the combining step, "observer data" should not be construed as "data consisting of at least color data..." but instead "data consisting of **only** color data." Even if true, Infernal has not met its burden to show here or at the district court that other types of non-color data are excluded from the scope of "said observer data," nor should the Court redraft Infernal's patent claims. *See Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1366 (Fed. Cir. 2012); *Rembrandt Data Techs., LP v. AOL, LLC*, 641 F.3d 1331, 1339 (Fed. Cir. 2011); *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1374 (Fed. Cir. 2004).⁸

⁷ Infernal did not cite this portion of the specification as support at summary judgment, Appx2002-2005, and its reliance on this passage for the first time on appeal is waived. *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1426 (Fed. Cir. 1997). This disclosure refers to Figure 4, which the district court analyzed when granting Activision's summary judgment motion. In that figure, the relevant step states "multiply camera view pixel(s) by corresponding light accumulation buffer data values." Appx0032 ('822 patent at Fig. 4). As the district court observed, these disclosures indicate "that camera view pixels are combined, but nowhere . . . indicate the camera view pixels consist only of RGB color values" and not also depth data or any other data type. Appx0013.

⁸ The district court also explained that plaintiffs' "color" argument is "contradicted by other intrinsic evidence, including the plain language of the patents (discussed previously), limitations in dependent claims, and the parties' agreed construction." Appx0013 (noting that claim 2 specifies that "said observer data" includes color data and depth data); Appx0041 at 12:22-25; *see also* Appx4939 (Hr'g. Tr. at 46:5-13); Appx4958 (Hr'g. Tr. at 65:1-21).

The district court's entry of summary judgment of noninfringement should be affirmed.

B. The Accused Games Do Not Perform the Recited Steps in the Order Required by the Asserted Claims.

While this Court only needs one basis to affirm the district court's judgment of noninfringement, the judgment also should be affirmed because the accused games do not perform the "combining" step in the order required by the claims.

1. "Combining" occurs before "the comparing and storing steps are completed" "for each of the plurality of light sources" in each accused game.

The asserted claims recite, in relevant part:

(c) *for each of said plurality of light sources*, comparing at least a portion of said observer data with at least a portion of said lighting data... and storing at least a portion of said light image data associated with said point and said light source in a light accumulation buffer (the "comparing and storing steps" of step (c)); *and then*

(d) combining at least a portion of said light accumulation buffer with said observer data" (the "combining step" of step (d)).

Appx0041 ('822 pat., cl. 1) (emphasis and parentheticals added); Appx18. The district court adopted the agreed construction requiring that "the comparing and storing steps are completed before beginning the combining step" Appx1246. *See also Mformation Techs., Inc. v. Research in Motion Ltd.*, 764 F.3d 1392, 1398 (Fed. Cir. 2014) ("[A] claim 'requires an ordering of steps when the claim language, as a

matter of logic or grammar, requires that the steps be performed in the order written, or the specification directly or implicitly requires' an order of steps.") (quotations and citations omitted).

Thus, the asserted claims require: (1) for *each* light source, at least a portion of said observer data and at least a portion of said lighting data is compared, and the resulting "light image data" for each light source is stored in a light accumulation buffer; and (2) the "comparing" and "storing" steps for *each* light source must be completed *before* combining at least a portion of the light accumulation buffer and said observer data. Appx0040 ('822 pat., 9:1-22); Appx0041 ('822 pat., 12:4-21). This sequence of steps requirement in the asserted claims—comparing and storing for each light source ***and then*** combining—was the patents' attempt to reduce processing time and to increase efficiency by accumulating the light image data for every light source and storing it in a buffer so that the light image data only needed to be combined with observer data once. Appx3806 (Hart Dep. at 90-92) ("What was taught by Claim 1 in both of the asserted patents is a way that was more efficient of managing multiple light sources because following this order meant that you weren't doing that combination with every light source, you were doing that combination at the end. So you are not doing that combination end times for end light sources, you are doing that combination once."); *see also* Appx3026-3027 (citing Hart Dep. at 90-91).

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By contrast, the accused games combine light image data for each light source with observer data without having to first accumulate and store all light image data for each light source in a light accumulation buffer. Before the district court, it was undisputed that the accused games combine “at least a portion of the alleged light accumulation buffer with said observer data” for a first light source before the accused “comparing” and “storing” steps are completed for each light source of “said plurality of light sources.” Appx1785–1787 (¶¶ 22, 23, 24); Appx1797–1800 (discussing source code of exemplary game).

Infernal’s infringement contentions as to *Call of Duty: Black Ops 3*—the exemplary game referenced by Activision at summary judgment—demonstrate what Infernal alleges is the operation or function in the accused games that satisfies combining step (d):

SOURCE CODE

Appx1798; Appx1823–2399; Appx1982 (Aliaga Rpt. Add. B ¶751); Appx1965 (Aliaga Rpt. Add. B ¶402). Infernal identified the above “SOURCE CODE” function as the “combining” step. As emphasized in red in the above excerpt, Infernal’s “combining” step involves addition and multiplication operations—“*” represents a multiplication operation; “+” represents an addition operation; and “+=”

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represents an operation that adds the right operand to the left operand and assigns the result to left operand.

Such “combining” steps in the accused games occur well before the comparing and storing steps are completed “for each of said plurality of light sources.” In the below excerpt, for example, Infernal relied on the variable “SOURCE CODE” (the alleged “light image data”) as being added to the “SOURCE CODE” variable (“the alleged “light accumulation buffer”) for the first light source processed. Appx1798; Appx1823–2399; Appx1841 (Aliaga Rpt. ¶297 (identifying “SOURCE CODE” as “light image data”)); Appx1981 (Add. B ¶742 (identifying “SOURCE CODE” as the alleged “light accumulation buffer”); *see also* Appx1481-1483 (Pelham Rpt. ¶¶88-91), Appx1484 (Pelham Rpt. ¶102).

SOURCE CODE

Appx1970 (¶ 446 (emphasis added)). As emphasized in red, this function involves an addition operation. Appx1483 (Pelham Rpt. ¶91). Infernal’s expert, Dr. Aliaga, agreed that the “SOURCE CODE” variable in Line 895, above, is derived from, and includes, “observer data.”⁹ Aliaga agreed that for the addition operation at Line 895,

⁹ Appx1599 (Aliaga Dep. at 106:6-9) (“Q. So SOURCE CODE derives – it would include observer data, right? A. *The same logic as before, yes. It – it includes observer data as well as light data.*”); *see also* Appx1397 (Pelham Rpt. ¶276-77, 282, 288), Appx1406-1407 (Pelham Rpt. ¶¶404-07), Appx1480-1481 (Pelham Rpt. ¶¶85, 86), Appx1483 (Pelham Rpt. ¶91).

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for example, “at least a portion of the light accumulation buffer [in this example, the ‘SOURCE CODE’ variable] is combined with said observer data [in this example, the ‘SOURCE CODE’ variable.]”. Appx1599 (Aliaga Dep. 106: 10-15).¹⁰ Aliaga also agreed that after executing the code at Line 895 for a first light, the code will proceed to perform additional “comparing” and “storing” steps for a second light source.¹¹ Thus, it was undisputed that “at least a portion of said light accumulation buffer is combined with said observer data” *prior to completing* the “comparing” and “storing” steps for each light source (in this example, Line 267).

The accused games do not perform the required sequence of steps and Infernal’s belated attempt to rewrite the claims fails. Infernal argues that so long as *any* “combining” step occurs after the comparing and storing steps are completed for specified light sources, the accused games literally meet the limitations of the

¹⁰ Appx1599 (Aliaga Dep. at 106:10-15) (“Q. And then, at [¶ 446, Line 895], we’re combining the SOURCE CODE with the SOURCE CODE right? A. *It’s doing some form of a combination, yes.*”); see also Appx1397 (Pelham Rpt. ¶¶276-79), Appx1406-1408 (Pelham Rpt. ¶¶403-409), Appx1480-1484 (Pelham Rpt. ¶¶85-100).

¹¹ Appx1599-1600 (Aliaga Dep. at 107:18-23 (“Q: [A]fter [Line] 895 is executed for the first light in a scene, do I understand it that the SOURCE CODE will then be called for each additional light source? A. *I believe that was discussed earlier, and I believe so.*”) & 108:22-109:5 (“Q. So after it computes that combination at ... Paragraph 446, Line 895-- A. *It’s doing some combination, yes.* Q. Okay. After ... this combination occurs, I believe you said that an additional comparing and storing operation will occur for the next light. A. *Yes.*”); see also 1398-1400 (Pelham Rpt. ¶¶280-86, 290, 409-13), Appx1478-1484 (¶¶83, 100).

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claims. In making this argument, Infernal ignores combining steps that begin *before* the alleged “comparing” and “storing” steps are completed for all light sources. Infernal’s argument fails as a matter of law.

First, it is undisputed that the accused games combine alleged “observer data” with “at least a portion of” the alleged “light accumulation buffer” for *the first light source processed* before performing comparing and storing steps for a second alleged light source. Appx1785–1787 (¶¶ 22, 23, 24); Appx2993-2996 (stating only that “Plaintiffs disagree” with Activision’s statements, without any supporting citation).

Infernal argues that Activision’s and the district court’s application of the claims to the accused games is incorrect. Specifically, Infernal argues that— notwithstanding the combining steps described above—so long as *any* additional combining step occurs after “comparing” and “storing” for each identified light source is complete, Activision’s accused games satisfied the required sequence of steps. In support of its argument, Infernal relies on a code function— “**SOURCE CODE**”—that occurs much later in the process to satisfy “combining” step (d):

SOURCE CODE

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Appx1798; Appx1823–2399; Appx1982 (Aliaga Rpt. Add. B ¶ 751); Appx1965 (Aliaga Rpt. Add. B ¶ 402). But this alleged “combining” occurs too late and cannot resurrect Infernal’s infringement case. By the time the “**SOURCE CODE**” function is performed, the accused games have already performed the sequence of steps *out of order*, and they cannot infringe.

These undisputed facts apply to each of the accused games. Appx1780–1787 and Appx1799–1800 (¶¶ 14-24 and pp. 25-26.) Thus, “at least a portion of said light accumulation buffer is combined with said observer data” *prior to completing* the “comparing” and “storing” steps for each light source (in this example, Line 267), and the district court correctly concluded that the accused games do not perform the combining step in the order required by the claims and thus do not infringe as a matter of law.

2. The transition words in the claims do not impact the required sequence of steps.

The open transition “comprising” does not support Infernal’s argument that Activision’s games meet the sequence of steps because, according to Infernal, the comparing and storing steps *that Infernal uses to show infringement* are completed before beginning the combining step *that Infernal uses to show infringement*. PB at 30, 34-35; *compare* Appx2994 (Infernal Response at 10 (“[O]nly the steps used to show infringement by the Accused Games must follow the order of steps from the

Asserted Patents.”); Appx3007-3008 (“The steps referenced in the Court’s order are those that Plaintiffs use to show infringement by the Accused Games.”). The district court considered the open nature of the claims, and correctly concluded that the steps at issue here are not “‘unrecited elements’ which can be practiced in addition to the enumerated steps; they *are* the recited, enumerated steps, which the Court has construed as being performed in a specific and particular order.” Appx0020. Infernal does not address this argument or attempt to distinguish any of the cases cited in support. *See e.g., Kustom Signals, Inc. v. Applied Concepts, Inc.*, 264 F.3d 1326, 1332 (Fed. Cir. 2001) (“[t]he open-ended transition ‘comprising’ does not free the claim from its own limitations.”).

Infernal also fails to address the district court’s conclusion that if the “comprising” transition allows Infernal to pick and choose which comparing, storing, and combining steps are used to show infringement, the Court’s order of steps construction would be superfluous. Appx0021. The district court reached a similar conclusion for apparatus claim 27 of the ’488 patent, which does not contain the

term “comprising.” Appx0021.¹² The plain language of the claims supports the district court’s conclusions regarding the necessary operations of the recited steps.

3. The district court did not confuse “each light source” with “plurality of light sources.”

First, Infernal quibbles about the use of the phrases “each light source” and “plurality of light sources” in the district court’s Order. *See* PB at 31-32. Infernal complains that the district court found “the accused games do not infringe the asserted claims because the undisputed evidence shows that combining steps begin before the comparing and storing steps are completed for **each light source**.” PB at 32 (emphasis in original). The district court was correct and Infernal fails to explain the difference between “a” combining step and “the” combining step, except to imply that “the” combining step is one that it relies on to prove infringement, as opposed to the combining steps that Activision points to for noninfringement. Merely identifying the disagreement between the parties does not explain why

¹² Infernal makes a different argument for computer-readable medium claim 27 in a footnote based on that claim’s inclusion of “at least,” rather than “comprising.” The district court specifically addressed this claim in its order. Appx0021. The single case Infernal cites, *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495 (Fed. Cir. 1997), does not warrant different treatment for that claim. That case explains that “[c]omprising” is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.” *Id.* at 501. The plain language of the claim supports the district court’s conclusion that claim 27 is not open-ended based on the recitation of “at least.” *See* Appx0059, ’488 patent, cl. 27.

Infernal is correct and Activision is wrong. For the reasons already stated above, Infernal's argument fails.

4. The district court did not base its opinion of noninfringement on one light source.

Second, the district court did not state, as Infernal claims, that if the sequence of steps was not followed for “any light source”, that would be sufficient to show noninfringement. PB at 4, 31. The words “any light source” do not even appear in the district court's Order. The district court's statements must be read in context of the claims being discussed.

Furthermore, as discussed below, the combining step begins during the processing of *all light sources* identified by Aliaga. Thus, no matter which light source Infernal chooses as a “first light source,” the combining step begins before completing the comparing and storing steps.

5. The district court based its opinion on the undisputed “combining” of “observer data” for its analysis.

Third, Infernal argues that the combining steps Activision relies on are not combining steps because the combining is (as the argument goes) only a combination of “color-less” data. PB at 32-33. In making this argument, Infernal fails to identify where exactly it believes that Activision or the district court relied on a combination including “color-less” data, or a combination including data that is disputably *not* “observer data.” The facts remain uncontroverted. Indeed, to the extent that Infernal

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is referring to the “SOURCE CODE” discussed above, Infernal’s own expert agrees that “SOURCE CODE” is observer data within the meaning of the claims, that is, “data representing at least the color of objects in a simulated multidimensional scene as viewed from an observer’s perspective.” Appx1599 (Aliaga Dep. at 106:6-9); *see supra* Part.II.B.1. Infernal’s expert further agrees that “SOURCE CODE” is combined.¹³

For each of these reasons, this Court should affirm the district court’s grant of summary judgment of noninfringement.

6. The Court should reject Infernal’s untimely attempt to identify a fact dispute in its plea for reversal.

Infernal seeks to dispute for the first time on appeal whether, for the light sources it identifies for infringement, there are intermediate¹⁴ “combining steps” that occur before the comparing and storing steps are completed. This argument should have been raised in its response to Activision’s motion for summary judgment. This argument is untimely on appeal and has been waived. *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1426 (Fed. Cir. 1997) (“In short, this court does not ‘review’ that which was not presented to the district court.”). Activision’s motion listed the undisputed facts relied on and extensive support for each fact, including

¹³ *See supra* nn.9, 10.

¹⁴ Intermediate as used in this context means prior to the final combining step identified by Infernal and its expert.

many dozens of citations to the report and deposition testimony of Infernal’s own expert. Appx1780–1787 (¶¶ 14-24). Indeed, Activision relies on the same proof that Infernal’s expert cites to show infringement. This proof—the undisputed facts of the case—shows that the combining step begins during the processing of all light sources Aliaga identifies. Thus, no matter which light source Infernal chooses as a “first light source,” the combining step begins before completing the comparing and storing steps. Moreover, Infernal failed to provide any citations to the record showing that any of the facts relied upon are genuinely disputed. Fed. R. Civ. P. 56(c)(1); Appx2993–2994; Appx3007–3010. Infernal also did not attempt to show that the materials cited by Activision did not establish the absence of a genuine dispute. Fed. R. Civ. P. 56(c)(2). *Id.*

Instead, at summary judgment, Infernal stated in conclusory fashion that it “disagreed” with two of the ten statements solely because their expert “opined that the Accused Games perform the ‘compare, store, and combining’ steps in the necessary order.” *Id.* Although the court “resolve[s] factual controversies in favor of the nonmoving party, [it] do[es] so only when there is an *actual controversy*, that is, when both parties have submitted evidence of contradictory facts.” *Salazar-Limon v. City of Houston*, 826 F.3d 272, 277 (5th Cir. 2016) (emphasis in original, internal quotations and alterations omitted). “After the nonmovant has been given an opportunity to raise a genuine factual issue, if no reasonable juror could find for the

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nonmovant, summary judgment will be granted.” *DIRECTV, Inc. v. Minor*, 420 F.3d 546, 549 (5th Cir. 2005) (citations omitted).

Infernal still fails to demonstrate a factual dispute (even assuming its arguments are timely). After failing to address Activision’s detailed explanation for why, in an exemplary game, there are intermediate combining steps, Infernal now raises four critiques. Each misses the mark.

First, Infernal contends that the “SOURCE CODE” variable Activision points to is “‘light image data’ and not observer data including at least color data that must be combined to perform the step.” PB at 37. However, Infernal’s own expert agrees that the “SOURCE CODE” variable in Line 895... is derived from, and includes, “observer data.” Appx1599 (Aliaga Dep. at 106:6-9); *see supra* n.9 and accompanying text.

Second, Infernal attempts to downplay the combination occurring at line 895 by focusing on line 895’s storing of “SOURCE CODE” light image data to the light accumulation buffer. PB at 37. Infernal’s argument that the claimed “storing” step occurs at line 895 does not detract from the undisputed evidence that “combining” occurs at line 895. Appx1798–1799; *see also* Appx1375 (*Infernal Tech., LLC v. Elec. Arts*, No. 2:15-cv-1523, Claim Construction Order (“[T]he patents expressly describe other ways in which data may be combined. For example, light accumulation data may be combined with light image data by adding the two items

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of data. *Id.* at col.9 1.42 (“ACCUM (SPx, SPy) += LIGHT IMAGE (LPx, LPy)”). Infernal’s own expert agreed that the addition operation in the relevant line shows “some form of combination, yes.” Appx1599 (Aliaga Dep. at 106: 10-15).

Third, Infernal complains that Activision did not show that the “[REDACTED]” light image data “includes ‘observer data.’” Infernal does not explain why it contends that “[REDACTED]” light image data does not include “observer data” nor does it address its own expert’s admission that [REDACTED] “includes observer data.” Appx1599 (Aliaga Dep. at 106:6-9). Nor can Infernal belatedly do so now. It is undisputed that, for every accused game, the “light image data” is also “observer data” because it derives from data from the g-buffer under Infernal’s theories. Appx1783-1784 (¶20); *see also* Appx1599 (Aliaga Dep. at 106:6-9).

Fourth, every single light processed (and relied on by Infernal’s expert to show infringement) includes an intermediate combining step. Appx1780–1787 (¶¶ 14-24). Therefore, it does not matter what light source Infernal identifies as its “first.” No matter the light source, the combining step begins before completing the comparing and storing steps for a required second light source. Infernal is therefore wrong when it claims “Activision did not show that its accused games began the combining step before the completion of the comparing and storing steps for any and every potential plurality of light sources.” PB at 38 (emphasis omitted).

This Court should affirm the district court’s grant of summary judgment of noninfringement.

III. THE DISTRICT COURT DID NOT ABUSE ITS DISCRETION IN EXCLUDING THE TESTIMONY OF LANCE GUNDERSON

The district court did not abuse its discretion in excluding the opinion testimony of Infernal’s damages expert. Gunderson’s opinions were based on a flawed damages theory—relying on general internal testing and demonstrations for direct infringement of method claims—and were not sufficiently tied to the facts of the case. The district court properly viewed the evidence of record to assess whether his opinions were reliable and relevant, and exercised its gatekeeper role in determining that they must be excluded. The district court’s judgment should be affirmed.

A. The Standard for Expert Testimony Under FED. R. EVID. 702.

A qualified expert witness may testify in the form of an opinion if the expert’s scientific, technical, or other specialized knowledge would help the jury determine an issue of fact. FED. R. EVID. 702. The trial judge in any case acts as a gatekeeper and undertakes “a preliminary assessment of whether the reasoning or methodology underlying [expert] testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue.” *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 592–93 (1993). In doing so, the trial judge ensures that only relevant and reliable expert testimony reaches the jury. *See id.* The nature of

the factors that are appropriate for the court to consider is dictated by the ultimate inquiry—whether the expert’s testimony is sufficiently reliable and relevant to be helpful to the finder of fact and thus to warrant admission at trial. *United States v. Valencia*, 600 F.3d 389, 424 (5th Cir. 2010).

Infernal, as the proponent of expert evidence, bore the burden of proof as to the admissibility of such evidence and had to prove the testimony’s reliability and relevance by a preponderance of the evidence. *See Mathis v. Exxon Corp.*, 302 F.3d 448, 459-60 (5th Cir. 2002) (“The party offering the expert must prove by a preponderance of the evidence that the proffered testimony satisfies the rule 702 test”) (citing *Bourjaily v. United States*, 483 U.S. 171, 175 (1987)). “Relevance depends upon whether [the expert’s] reasoning or methodology properly can be applied to the facts in issue.” *Daubert*, 509 U.S. at 593. Otherwise, the testimony fails the “fit” requirement because it is not “sufficiently tied to the facts of the case” to assist the jury in resolving a factual dispute. *Id.* at 591(citation omitted). An expert’s opinion is inherently unreliable and inadmissible if there is “too great an analytical gap” between the basis for the expert’s opinion and the opinion proffered. *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997).

B. Gunderson’s Opinions Are Insufficiently Tied to the Facts of this Case.

While Gunderson did not have to offer an opinion on infringement, his opinions did have to be tied to the activities alleged to be infringing. *See*

ResQNet.com, Inc. v. Lansa, Inc., 594 F.3d 860, 869 (Fed. Cir. 2010) (“[T]he damages inquiry must concentrate on compensation for the economic harm **caused by** infringement of the claimed invention.”) (emphasis added). Method claims are only infringed when all the steps of the method are practiced; not by the sale of an apparatus alleged to be capable of performing the claimed method. *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311 (Fed. Cir. 2006); *Packet Intelligence*, 965 F.3d at 1314 (“Method claims are ‘not directly infringed by the mere sale of an apparatus capable of performing the claimed process.’”) (citation omitted). For direct infringement of the accused method claims, Gunderson pointed to Activision’s internal testing and public demonstrations of the games at gaming conventions during the development process as the acts of infringement. Appx4120-4123. Yet his reasonable royalty model was based on Activision’s revenues for all sales of the accused games, and was not tied to the testing and demonstrations on which he relied for acts of infringement. Appx4142-4143.

For example, Gunderson points to general statements and testimony on Activision’s quality assurance testing during game development. *See* Appx4120-4122 ¶¶30-33. He also points to quality assurance testing performed by third parties (not by Activision) with respect to the Destiny games, which were developed by third-party Bungie. Appx4122 ¶33 (discussing testimony of Bungie’s Chief Operating Officer).

In its response to Activision’s motion to exclude Gunderson’s opinions, Infernal also pointed to Aliaga’s expert report, stating that testing is an important part of the game development process and asserting that failure to test would negatively impact the success of a game. Appx4427-4428. However, as the district court noted, none of the evidence on which Gunderson or Infernal relied mentions testing of “deferred rendering, image quality, light sources, or anything relating specifically to the claimed method,” nor does it “establish that testing affects sales.” Appx0026-0027.

Here, the district court correctly determined that the infringement evidence on which Gunderson and Infernal relied did not show a meaningful connection between Activision’s alleged use of the patented method and sales of the accused games, much less what impact testing or game quality had on game sales. Appx0026-0027. To support its claim, Infernal points to discussions in Gunderson’s report asserting that testing is an “important step” and “integral part” of a game’s development and quality, *see, e.g.*, PB at 47. But this does not tie infringement of the method claims at issue to sales of the accused games. As in the *Packet Intelligence* case, Gunderson’s “damages base was not tailored to any alleged internal use of the claimed methods.” *Packet Intelligence*, 965 F.3d at 1315. Infernal did not produce any evidence that “the claimed method was actually used and hence infringed.” *Id.*

And Infernal “cannot simply count sales of the software accused of infringing the [patents] as sales of the method claimed in the [patents].” *Id.* at 1314-15.

The opinions of Gunderson were therefore not reliable because they were not sufficiently tied to the facts of the case, and the district court did not abuse its discretion in excluding his opinions.

C. Reasonable Royalty Damages Are Not Calculated in A Vacuum, And the Underlying Methodology For Entitlement to Damages Must Be Sound.

Infernal appears to take the position that alleging infringement is enough “economic harm” for it to be entitled to a reasonable royalty for all sales of the accused games during the damages period. *See* PB at 45-46. But this ignores that “reasonable royalty damages are not calculated in a vacuum without consideration of the infringement being redressed.” *Applied Med. Res. Corp. v. United States Surgical Corp.*, 435 F.3d 1356, 1361 (Fed. Cir. 2006). “While questions regarding which facts are most relevant for calculating a reasonable royalty are properly left to the jury, a critical prerequisite is that the underlying methodology be sound.” *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1328 (Fed. Cir. 2014).

To support its argument that sales may be used to measure damages resulting from internal use of a patented method, Infernal points to the decisions in *Carnegie Mellon University v. Marvell Tech. Group, Ltd.*, 890 F. Supp. 2d 602 (W.D. Pa. 2012), *aff’d in part, rev’d in part, vacated in part*, 807 F.3d 1283 (Fed. Cir. 2015).

Infernal's reliance on *Carnegie Mellon* is misplaced. In that case, the accused infringing chips were specially designed with customer-specific requirements, where the winner of the sale of the chips achieved a "design win" and became the exclusive supplier of the accused chips. *Carnegie Mellon*, 807 F.3d at 1309 ("Because of the customized nature of the chips, designers and potential customers put themselves through a lengthy 'sales cycle,' involving extensive joint work over several years, before any sale is made and chips enter mass production."); *Carnegie Mellon*, 890 F. Supp. 2d at 610 (evidence established that "any profit that Marvell derives from the sale of infringing chips is directly due to its infringements during the sales cycle."). *Carnegie Mellon* presented evidence that the accused infringer, Marvell, practiced method claims of the patent-at-issue during testing and development. *Carnegie Mellon*, 890 F. Supp. 2d at 609-610. Testing of the accused infringing products in this winner-takes-all approach with a specific causal relationship between performance of the method steps and product sales is far different from the present case.

Infernal tries to make much of the fact that Activision's damages expert, Catharine Lawton, was *Carnegie Mellon*'s expert in the *Carnegie Mellon* case. PB at 45-46. But Ms. Lawton testified that product sales can be a reasonable royalty metric for infringement of method claims if "some causal nexus between use of the method and the sales" exists. Appx4856-4857 (distinguishing the design win market

for semiconductor chips with sales of video games). Likewise, the district court in the present appeal recognized the *Carnegie Mellon* case as an appropriate example for basing damages on product sales for internal use of a claimed method. Appx0025-0026. The court correctly noted “in *Carnegie Mellon* there was a clear nexus between internal use of the patented method and sales, which is wholly absent here.” Appx0026.

As noted, the evidence on which Infernal continues to rely on appeal is general testing and demonstration evidence, which the district court correctly concluded was insufficient; it is not tied to practicing the claimed methods. PB at 47-49. Infernal misquotes the district court, alleging that the court “disagree[d] with this *evidence*” (PB at 49 (emphasis added)); however, the district court acknowledged the evidence and disagreed with Infernal’s “argument.” Appx0026 (“The Court disagrees with Plaintiffs’ *argument*. This evidence does not show a nexus or connection between Activision’s performance of the claimed method and sales.”) (emphasis added). The court reviewed the evidence and found that it was insufficient to support Gunderson’s opinions. Appx0026-0027.

Infernal, not the district court, applies the wrong legal standard. *See* PB at 50. The district court reviewed the sufficiency of the evidence for the alleged infringement being redressed. Similar to the *Packet Intelligence* case, at most, the evidence “would only justify instances of internal use being counted as part of the

royalty base.” *Packet Intelligence*, 965 F.3d at 1315. In this case, the district court was not weighing the evidence, but rather acting as a gatekeeper and precluding an unsupportable damages theory from reaching the jury. *See Moore v. Ashland Chem. Inc.*, 151 F.3d 269, 279 (5th Cir. 1998) (“*Daubert* and its progeny give the district court discretion to ‘keep the gate’ for the purpose of admitting or excluding opinion testimony.”).

The *Genband US* case, on which Infernal relies, does not impact the need for reasonable royalty damages to be tied to the infringement being redressed. *See Applied Med. Res. Corp.*, 435 F.3d at 1361. Rather, *Genband US LLC v. Metaswitch Networks Corp.*, 861 F.3d 1378 (Fed. Cir. 2017), addresses the irreparable injury prong for obtaining injunctive relief. It does not address the need for reasonable royalty damages to be tied to the facts of a case.

D. Gunderson’s Opinions Are Based on Flawed Methodology.

Infernal would have the Court believe that a damages expert can assume liability and that Gunderson’s damages model need not be tied to Infernal’s theory of infringement. PB at 52. While it is proper for a damages expert to assume liability exists, his or her damages model needs to have some connection to the alleged acts of infringement. *See Applied Med. Res. Corp.*, 435 F.3d at 1361. Infernal’s reliance on *Robroy Indus.-Texas, LLC v. Thomas & Betts Corp.*, No. 2:15-CV-512-WCB, 2017 WL 1319553 (E.D. Tex. Apr. 10, 2017), does not change this principle. The

district court in that case dealt with competing experts opining about damages related to false advertising. *Id.* at *8. The court did not address reasonable royalty damages for direct infringement of a method claim, and this decision does not impact the need for a meaningful connection between the alleged infringement and the reasonable royalty being sought.

E. The District Court Did Not Abuse Its Discretion In Excluding All of Gunderson’s Opinions.

Gunderson relied on the same methodology for infringement of both accused method claims and apparatus claims—a unitary sales-based damages model. Appx4142-4143. His opinion did not allocate for reasonable royalty damages attributable to any other bases for infringement beyond direct infringement based on testing and demonstration of the accused games. “To be admissible, expert testimony opining on a reasonable royalty must ‘sufficiently [tie the expert testimony on damages] to the facts of the case. If the patentee fails to tie the theory to the facts of the case, the testimony must be excluded.’” *Exmark Mfg. Co. v. Briggs & Stratton Power Prods. Group, LLC*, 879 F.3d 1332, 1349 (Fed. Cir. 2018) (citation omitted); *MLC Intellectual Prop., LLC v. Micron Tech., Inc.*, 10 F.4th 1358, 1368 (Fed. Cir. 2021) (no abuse of discretion in excluding damages expert’s testimony that was “not sufficiently tethered to the evidence presented”). Gunderson’s entire analysis is flawed, and there is too great of an analytical gap between the data, the

evidence, and his proffered opinion. Thus, the district court did not abuse its discretion in excluding his opinions, which were inappropriate to send to a jury.

The flaws in Gunderson's analysis are further exacerbated by other issues. For example, some of the accused games, the Destiny games, were developed and tested by third-party Bungie, not Activision. Appx4234. As a result, Infernal's allegations of direct infringement by Activision for Bungie's activities fail as a matter of law. *See AstraZeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1343 (Fed. Cir. 2015) ("The royalty base for reasonable royalty damages cannot include activities that do not constitute patent infringement, as patent damages are limited to those 'adequate to compensate for the infringement.'") (quoting 35 U.S.C. § 284); *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1317 (Fed. Cir. 2009) ("To infringe a method claim, a person must have practiced all steps of the claimed method."). Further, some of the testing activities on which Gunderson relies for direct infringement of the method claims did not occur within the United States, and also fail as a basis for infringement. Appx4153, Appx4157 (discussing functional testing in Quebec and localized testing of Blizzard games in other countries); *see NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005) (a process cannot be "used" under Section 271(a) unless all the steps are performed within this country).

The overall unreliability of Gunderson's analysis is further shown by Gunderson's failure to apply the hypothetical negotiation date to the facts in issue to

arrive at his proposed reasonable royalty. Gunderson opined that the hypothetical negotiation between Terminal Reality, Inc. and Activision would have taken place in 2011 when development started on the Skylanders: Swap Force game, even though that game was not released until approximately two years later in October 2013. Appx4137-4138, Appx4141 (Gunderson Rpt. ¶¶ 100, 165). In choosing this date, he failed “to ascertain the royalty upon which the parties would have agreed had they successfully negotiated an agreement just before infringement began.” *Lucent Techs.*, 580 F.3d at 1324 (emphasis added); *see also LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 75 (Fed. Cir. 2012) (“In general, the date of the hypothetical negotiation is the date that the infringement began.”). Gunderson assumed that the accused games were practicing the claimed inventions at the outset of development—though the video game production life cycle is often multiple years. Appx4163 (Gunderson Dep. at 41:22-24). By contrast, Activision’s testing occurred from “4 months before release to around the time of release,” not at the beginning of the video game production cycle. Appx4174-4175 (Act. 1st Supp. Resp. to Interrog. No. 8). While the district court did not find it necessary to address this deficiency in Gunderson’s analysis (Appx0027), it further highlights the problems with his opinions and provides an additional basis for affirmance. *See Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 822 n.1 (Fed. Cir. 1989) (appellee

can assert alternative grounds for affirming judgment that are supported by the record).

Infernal fails to show the district court abused its discretion in excluding Gunderson’s opinion in its entirety. *See ePlus, Inc. v. Lawson Software, Inc.* 700 F.3d 509, 522-23 (Fed. Cir. 2012) (“abuse of discretion standard is highly deferential” and finding “ample justification” in precluding damages expert testimony and not permitting any evidence of damages).

CONCLUSION

For the reasons set forth above, Activision respectfully requests the Court affirm the district court’s judgment.

Dated: February 17, 2022

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

This brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 32 and Federal Circuit Rule 32(b). This brief contains 13,319 words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(f) and Federal Circuit Rule 32(b)(2). This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6). This brief has been prepared in a proportionally spaced typeface using Microsoft Word in 14-point Times New Roman.

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